TRANSPORTATION DISTRICT 2

Dedicated people creating transportation solutions through innovation and exceptional service.

TECHNICAL BULLETIN

Volume 11. Issue 11
November/December 2003

New Utility Facilities and/or Utility Upgrades on STH, Federal Highways, Expressways and Freeways Rights of Way

Federal and State highway authorities have determined that the highway right of way is, in many cases, the most cost effective corridor to transmit electricity, gas, communications, sewer, water and the other private and municipal Utilities. "State Statutes 86.16 and 182.017 give utilities the right to occupy the highway right-of-way, subject to the Utility Accommodation Policy and the permitting process." "State Statute 182.0175 requires the designer to prepare plans that will avoid, as much as possible, any interference with utility transmission facilities."

The Utilities are under pressure to upgrade their infrastructure since 9/11 and the recent electrical black out. Utilities will be requesting to put some of these new facilities and upgrades within road rights-of-way. These new facilities or upgrades may not be in conflict at the time they are installed, however a road project comes along that puts these new facilities in conflict. With all the work that has gone in to both their facility and our roadway improvement projects we need to become more proactive to avoid as much as possible utility conflicts.

The Utilities have reduced budgets, work forces and high demands. New facilities take years to plan and execute much like our road plans, major transmission lines, gas/petroleum mains, communication trunk lines require major investment of time and money. Quite often these facilities are designed to be site specific. More information needs to be given to both parties, Utilities about their upcoming projects, and us about ours even just the knowledge that a section of road is in the schedule will help them design their facilities with fewer conflicts.

As a result, the Utilities Unit will be requesting the Utilities to let us know where they are planning new facilities or upgrades along Districts highways. We will then put them in contact with the project engineers for all the known upcoming projects along that stretch of highway, no matter how far out, so we can communicate and coordinate with them to prevent or at least reduce as much as possible future utility/road construction conflicts.

The lines of communication need our help! To make the doors of success open

Inside this issue:

Special points of interest:

"Putting Research to Work" highlights recent technical developments in highway design, construction, operations and safety for district and central office staff as well as consultants, contractors and local transportation engineers.

http://www.dot.wisconsin.gov/library/publications/format/newsletters/rdt.htm

Marker Posts for R/W

District 2 Special Provision 614-2001 must be added to any construction contract having pay item of 614.0605. This provision provides for the possibility that the contractor may have to install posts at more than one time after the monuments have been staked, and describes the temporary marking that must be salvaged during construction.

Design Issues at Intersections

Channelization

Designers should be aware of maintaining a clear and visible thru movement through intersections. Designers should layout intersection geometry to provide natural flow for the driver while providing the necessary accommodations for pedestrians. When adding right turn islands designers should keep in mind that the island can pose a hazard to cross traffic if it is not properly located, signed and marked. In the photo, channelizing should have been added to keep the through traffic to the left to avoid the right turn island on the other side of the intersection. FDM 11-25-25 *states "The use of islands for directing traffic should be held to a practical minimum, as they themselves can present problems, especially for winter maintenance activities."*

Concrete Corrugated Median

Another issue is the use of concrete corrugated median. Typically, concrete corrugated median is not used by itself to separate opposing traffic at an intersection. Designers should avoid using concrete corrugated median to separate opposing traffic in combination with raised right turn islands as shown in the photo. If islands are needed, then the medians should also be raised.

Concrete corrugated medians should be used to warn approaching traffic of the start of a raised median or divided roadway. The corrugated section should extend back until the width of the corrugated median is about 2 to 4 feet. (Where the double yellow centerline begins to separate at the median) Designers should not rely on pavement marking alone to warn drivers of an approaching raised median.

Right Turn Islands can pose a hazard to cross traffic if it is not properly located, signed and marked.

Approach Geometry

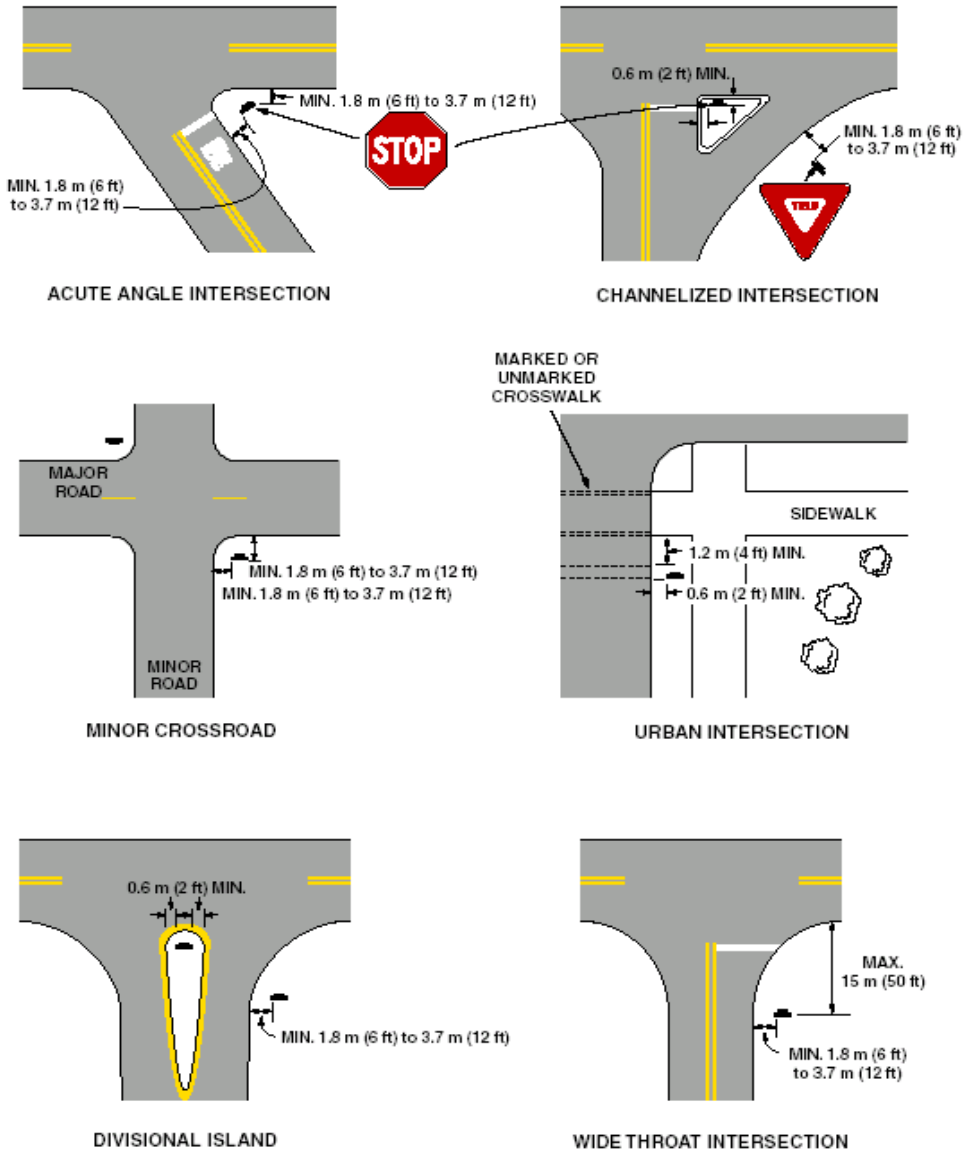
On the approaches to an intersection, designers should maintain consistency for lane configurations, island geometrics, signing and marking to avoid confusing the driver. Maintaining consistent approaches for mainline on both legs and maintaining consist geometry on the side road when possible allows the driver to maneuver through the intersection without encountering surprises or having unexpected confusion.. Geometric difference may be warranted when extreme traffic volumes and movements exist or are anticipated.

Stop Sign Locations

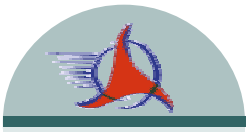
Designers and construction staff need to be aware of proper placement of stop signs at intersections. Large radii and right turn lanes can cause stop signs to be located at distances that can cause a driver to not see them. Proper placement should be a minimum of 12 feet back from the edge of the through highway with a maximum distance of 50 feet per MUTCD. The stop sign offset from the edge of the approaching roadway should be placed for good visibility for approaching traffic. Figure 2A-2 of the MUTCD (shown on next page) provides examples of proper placement of stop signs. If the large radius is required at that intersection to accommodate trucks, designer should consider adding an island to provide proper channelization and to provide a location for signing.

Examples of Locations for some Typical Signs

Figure 2A-2. Examples of Locations for Some Typical Signs at Intersections



Note: Lateral offset is a minimum of 1.8 m (6 ft) measured from the edge of the shoulder, or 3.7 m (12 ft) measured from the edge of the traveled way. See Section 2A.19 for lower minimums that may be used in urban areas, or where lateral offset space is limited.

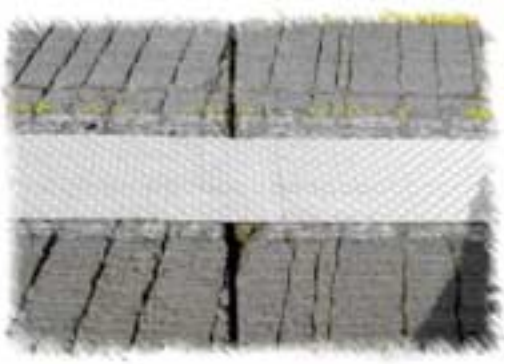


Concrete Corrugated Median is not used by itself to separate opposing traffic at an intersection.

Construction Changes

If changes are believed to be needed in the field, construction staff should discuss these changes with and provide sketches to the WisDOT project manager and to the Traffic Operations unit for review and approval

Raised pattern pavement marking



The Items of Pavement Marking Raised Patterned Tape 4-Inch and Pavement Marking Raised Pattern 4-Inch, Grooved In, have been appearing on projects where volumes of traffic require their use *in particular on 4 lane divided highways, expressways and freeways and some 2-lane facilities.* If you have these items on your project, you are urged to follow the standards specifications and special provisions to insure compliance. It is recommended to ask for a project meeting with the prime contractor and the subcontractor doing the work, and to review the specifications for the work, prior to the work being performed.

Another item that should be reviewed prior to work being done is Locating No Passing Zones. It ***is necessary*** to check the spotting sight distance listed, in the Special provisions, with the ***District's Traffic Operations*** Group for compliance. ***The exact location of the beginning and end of a No Passing Zone is determined by the section 648 of the specifications.***

Transportation District 2

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Increasing Productivity

Project Publications

District 2 is adopting the standard format used in other districts for project publications such as newsletters, flyers, meeting announcements, and other public involvement efforts. The new format is a Publisher template that will be stored as W:/design/forms/public involvement/newsletter template.pub.

In house staff may use the template to draft the desired document or transmit the template to the project consultant for their use in developing the desired document.

In house staff also have the option of sending ideas, displays, and text files to Design Administration. They will then use the template to create a document for project staff review. Design Administration will also send the template to consultants upon request.

Remember, all documents for public distribution must be reviewed by D-2 public information office before being sent out, both in house and consultant. D-2 Public information will also decide if the document needs further approval by Central office.